



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Arthur I. Watson

Serial No.: 10/711,631

Filed: September 29, 2004

For: System and Method for a Combined
Motor and Protector

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Group Art Unit: 3676

Examiner: Fuller, Robert Edward

Atty Docket: 68.0417

Assistant Commissioner
for Patents
Washington, D.C. 20231

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APPEAL BRIEF PURSUANT TO 37 C.F.R. §§ 41.31 AND 41.37

This Appeal Brief is being filed in furtherance to the Notice of Appeal mailed on May 29,
2009 and received by the US Patent and Trademark Office on June 3, 2009.

1. **REAL PARTY IN INTEREST**

The real party in interest is Schlumberger Technology Corporation, the Assignee of the
above-referenced application as recorded at Reel No. 016075, Frame No. 0353.

2. **RELATED APPEALS AND INTERFERENCES**

Appellant is unaware of any other appeals or interferences related to this Appeal. The
undersigned is Appellant's legal representative in this Appeal. Schlumberger Technology

Corporation, the Assignee of the above-referenced application, will be directly affected by the Board's decision in the pending appeal.

3. **STATUS OF CLAIMS**

Claims 1, 3-11, 13-20, 22-35, 39, 40, 43-45 and 47-51 stand rejected by the Examiner as noted in the final Office Action dated January 16, 2009. Claims 2, 12, 21, 36-38, 41, 42, 46 and 52-56 were canceled prior to the January 16, 2009 final Office Action. The rejection of claims 1, 3-11, 13-20, 22-35, 39, 40, 43-45 and 47-51 is appealed.

4. **STATUS OF AMENDMENTS**

No amendments were made to the claims after the final Office Action dated January 16, 2009. Similarly, no amendments were made in response to the previous Office Action dated July 10, 2008. Prior to the final rejection, amendments to the claims were made in the Reply and Amendment mailed March 5, 2008 in response to the December 13, 2007 Office Action.

5. **SUMMARY OF THE CLAIMED SUBJECT MATTER**

a.) Independent Claim 1

Independent claim 1 is directed to a system (20) used for producing oil. (*See, for example, paragraph 0023, page 5, lines 14-18*). The system (20) comprises a submersible pump (36) and a motive unit (42) that powers the submersible pump (36). The motive unit (42) is designed as a single device having a motor section (48) and a motor protector section (50) which seals the motor section (48) from surrounding fluid while accommodating thermal expansion of an internal lubricating fluid during production of oil. (*See, for example, paragraph 0026, page 6, lines 8-18; and paragraph 0028, page 7, lines 2-6*). The motive unit (42) comprises a plurality of bearings (60) having self lubricating bushings (132). (*See, for example, paragraph 0029, page 7, lines 16-18; and paragraph and 0036, page 12, lines 15-21*). The motor section (48) and the

motor protector section (50) comprise a motor section shaft (54) and a motor protector section shaft (56), respectively. *(See, for example, paragraph 0028, page 7, lines 4-9).* The motor section shaft (54) and the motor protector section shaft (56) are axially affixed to each other with respect to a longitudinal axis of the motive unit (42). *(See, for example, paragraph 0030, page 8, lines 1-18).*

b.) Independent claim 16

Independent claim 16 is directed to a method of forming a motive unit (42) for a submersible pumping system (22). *(See, for example, paragraph 0026, page 6, lines 8-13).* The method comprises connecting a motor section shaft (54) to a protector section shaft (56) to form an axially affixed connection. *(See, for example, paragraph 0030, page 8, lines 1-18).* A sealed housing (46) is placed around the axially affixed connection to form a combined motor section 48 and protector section 50. *(See, for example, paragraph 0032, page 9, lines 8-15).* The combined motor section (48) and protector section (50) are prefilled with a lubricating fluid prior to delivery of the combined motor section (48) and protector section (50) to a wellbore (24) location. *(See, for example, paragraph 0027, page 6, lines 19-28; paragraph 0041, page 14, lines 24-27).* Additionally, the method comprises forming a protector section head (122) having lateral sand escape holes (120) above a protector section bearing (60). *(See, for example, paragraph 0035, page 11, lines 10-25).*

c.) Independent Claim 26

Independent claim 26 is directed to a method for protecting a submersible motor (48) that comprises constructing a motive unit (42), having a longitudinal axis, for use in a submersible pumping system (22) with a motor section (48) and a protector section (50) combined. *(See, for example, paragraph 0028, page 7, lines 1-11).* The motive unit (42) is delivered to an oil production well (24) as a single unit. *(See, for example, paragraph 0027, page 6, lines 19-28).* The method further comprises providing the motive unit (42) with a plurality of oil communication holes (168) deployed at a nonzero angle (166) with respect to a longitudinal axis

(58) such that the nonzero angle (166) of the plurality of oil communication holes (168) corresponds with an angle at which the motive unit (42) is positioned relative to vertical during filling of the motive unit (42) with oil. *(See, for example, paragraph and 0041, page 14, line 24, through page 15, line 13).*

d.) Independent claim 39

Independent claim 39 is directed to a system (20) for producing a fluid. The system comprises a motor section (48) having an electrical cable connection (67). *(See, for example, paragraph 0029, page 7, lines 25-27).* The electrical cable connection (67) has a terminal block (100) that is movable between a sealed position and an open position which enables fluid communication between a connection interface (96) and an interior volume (98) of the motor section (48). *(See, for example, paragraph 0033, page 9, line 16, through page 10, line 15).* A spring (108) is positioned to spring bias the terminal block (100) toward the sealed position. *(See, for example, paragraph 0034, page 10, line 22-24).* A dielectric gasket (116) is positioned to limit electrical tracking. *(See, for example, paragraph 0034, page 11, lines 4-9).*

e.) Independent Claim 43

Independent claim 43 is directed to a system (20) used for producing a fluid. *(See, for example, paragraph 0023, page 5, lines 14-18).* The system (20) comprises a motive unit (42) that powers a submersible pump (36). *(See, for example, paragraph 0026, page 6, lines 8-18).* The motive unit (42) comprises a bearing (60) disposed about a drive shaft (54 or 56), wherein the journal bearing (60) has a replaceable sleeve (62) press fit onto the drive shaft (54 or 56) with a tolerance ring (134). *(See, for example, paragraph 0037, page 12, line 24, through page 13, line 7).*

f.) Independent Claim 51

Independent claim 51 is directed to a system (20) for use in pumping a fluid from a well (24). *(See, for example, paragraph 0023, page 5, lines 14-18; and paragraph 0024, page 5, lines 18-22).* The system (20) comprises an electric submersible pumping system (36) having a motor section (48) and a motor protector section (50). *(See, for example, paragraph 0028, page 7, lines 2-6).* At least one of the motor section (48) and the motor protector section (50) comprises a bubble sump (180) which maintains any released gases in a dedicated volume (184). *(See, for example, paragraph 0044, page 16, lines 8-14).* Additionally, a relief valve system (190) is placed in communication with the dedicated volume (184) to vent gas from the bubble sump (180). *(See, for example, paragraph 0046, page 17, lines 8-20).*

6. **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

a.) Whether claims 16-19, 22, 25-28 and 30-32 are unpatentable under 35 U.S.C. § 102(b) as anticipated by the Shaw et al. reference, US Patent No.: 4,667,737.

b.) Whether claims 39 and 40 are unpatentable under 35 U.S.C. § 102(b) as anticipated by the Shilman reference, RU 2162272 C1.

c.) Whether claims 47-51 are unpatentable under 35 U.S.C. § 102(e) as anticipated by the Du et al. reference, US Publication No.: 2005/0087343.

d.) Whether claims 1, 3-5, 7, 8, 15, 23 and 33 are unpatentable under 35 U.S.C. § 103(a) as being obvious over the Shaw et al. reference in view of the Scarsdale reference, US Patent No.: 6,290,430.

e.) Whether claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over the Shaw et al. reference in view of the Scarsdale reference and further in view of the Shilman reference.

f.) Whether claims 9-11 are unpatentable under 35 U.S.C. § 103(a) as being obvious over the Shaw et al. reference in view of the Scarsdale reference and further in view of the Kinsinger reference, US Patent No.: 6,091,175.

g.) Whether claim 13 is unpatentable under 35 U.S.C. § 103(a) as being obvious over the Shaw et al. reference in view of the Scarsdale reference and further in view of the Vandevier reference, US Patent No.: 4,521,708.

h.) Whether claim 14 is unpatentable under 35 U.S.C. § 103(a) as being obvious over the Shaw et al. reference in view of the Scarsdale reference and further in view of the Howell et al. reference, US Patent No.: 6,602,059.

i.) Whether claim 20 is unpatentable under 35 U.S.C. § 103(a) as being obvious over the Shaw et al. reference in view of the Shilman reference.

j.) Whether claim 29 is unpatentable under 35 U.S.C. § 103(a) as being obvious over the Shaw et al. reference.

k.) Whether claim 34 is unpatentable under 35 U.S.C. § 103(a) as being obvious over the Shaw et al. reference in view of the Vandevier reference.

l.) Whether claims 24 and 35 are unpatentable under 35 U.S.C. § 103(a) as being obvious over the Shaw et al. reference in view of the Howell et al. reference.

m.) Whether claims 43-45 are unpatentable under 35 U.S.C. § 103(a) as being obvious over the Kinsinger reference in view of the Yamamoto et al. reference, US Patent No.: 6, 854, 556, and the Kurokawa et al. reference, US Patent No.: 6,394,220.

7. **ARGUMENT**

a.) **Rejection of claims 16-19, 22, 25-28 and 30-32 as unpatentable under 35 U.S.C. § 102(b) for being anticipated by the Shaw et al. reference, US Patent No.: 4,667,737.**

- Claims 16-19, 22, 25

Independent claim 16 was improperly rejected under 35 USC 102(b) because the cited reference fails to disclose each and every element of the subject claim. Accordingly, the rejection under 35 USC 102(b) should be withdrawn.

The Shaw et al. reference fails to disclose elements of independent claim 16 including such elements as forming an axially affixed connection, prefilling a combined motor section and protector section with lubricating fluid prior to delivery to a wellbore location, and other elements as described in greater detail below. Instead, the Shaw et al. reference discloses a sealing apparatus that is used with a submersible motor. The sealing apparatus has a tubular housing assembly 10 attached to the top end of a conventional submersible electric motor housing 1. An end flange 1a on the conventional motor housing is mated with flange 10a of the tubular housing assembly 10. A motor shaft 1d is provided with splines 1e that engage corresponding splines of a coupling 2. The opposite end of coupling 2 also has splines for receiving the splined bottom end 5a of motor shaft extension 5. (See column 3, lines 3-20). In the January 16, 2009 Office Action, statements were made that the Shaw et al. reference discloses specific claim features. However, support for these statements is not cited; and after review of the actual Shaw et al. reference Applicant respectfully submits the reference simply does not disclose these elements.

For example, a statement is made in the January 16, 2009 Office Action that the Shaw et al. reference discloses forming a motive unit by connecting a motor section shaft to a protector section shaft to form "an axially affixed connection". (See January 16, 2009 Office Action, page

2, section 3). However, the actual Shaw et al. reference describes and teaches the exact opposite in the form of conventional, splined shaft ends to accommodate axial movement during assembly and disassembly of the components.

In a further example, a statement is made in the January 16, 2009 Office Action that the Shaw et al. reference discloses "prefilling the combined motor section and protector section with a lubricating fluid prior to delivery of the combined motor section and protector section to a wellbore location". (See Office Action, page 2, section 3). Again, the actual Shaw et al. reference provides absolutely no disclosure or teaching related to prefilling the combined motor section and protector section prior to moving the combined unit to a wellbore location. Instead, the Shaw et al. reference discloses a conventional pumping system with separate submersible motor and motor protector that can be connected via flanges 1a and 10a as described above. As described in the specification of the present application, such conventional systems are delivered to the wellbore location, assembled and topped off with lubricating fluid at the wellbore location instead of prefilling a combined unit.

The Examiner attempts to ignore this latter element of at least independent claim 16 by effectively arguing the Shaw et al. pumping system has lubricating oil when moved downhole. However, the language of the claim cannot be ignored or rewritten to artificially support the rejection. Claim 16 does not recite prefilling before moving the combined motor section and protector section to a location in the wellbore but rather prior to moving the combination to a "wellbore location"; and the meaning of this claim language is supported throughout the specification. (See, for example, paragraph 0027 of the Specification, in which prefilling at the factory is discussed, and paragraph 0041 of the Specification, in which prefilling is accomplished with the combined unit positioned at an angle before movement to the wellbore location).

These and other examples in the Office Action demonstrate that the Shaw et al. reference is improperly relied on as an anticipatory reference and, in fact, fails to disclose numerous elements of the rejected claims. By way of specific examples, the Shaw et al. reference fails to disclose or suggest "connecting a motor section shaft to a protector section shaft to form an

axially affixed connection"; placing a sealed housing "about the axially affixed connection"; or prefilling the combined motor section and protector section "prior to delivery of the combined motor section and protector section to a wellbore location " as recited in independent claim 16. Accordingly, the rejection of independent claim 16 under 35 USC 102(b) must be withdrawn.

Claims 17-19, 22 and 25 ultimately depend from independent claim 16 discussed above, and each claim recites additional elements. Accordingly, the rejection of these dependent claims under 35 USC 102(b) also must be withdrawn.

- Claims 26-28 and 30-32

Independent claim 26 was improperly rejected under 35 USC 102(b) because the cited reference fails to disclose each and every element of the subject claim. Accordingly, the rejection under 35 USC 102(b) should be withdrawn.

The Shaw et al. reference fails to disclose elements of independent claim 26 including delivering the motive unit to an oil production well as a single unit and providing the motive unit with a plurality of oil communication holes deployed at a nonzero angle with respect to a longitudinal axis. These and other elements have been ignored in the rejection of independent claim 26.

For example, a statement is made in the January 16, 2009 Office Action that the Shaw et al. reference discloses oil communication holes deployed at a nonzero angle to correspond "with an angle at which the motive unit is positioned relative to vertical during filling of the motive unit with oil". (See Office Action, page 3). However, the Shaw et al. reference provides absolutely no disclosure or teaching related to this assertion. The Shaw et al. reference discloses a variety of internal fluid flow paths at various, different angles; but the reference is believed to be completely devoid of any disclosure or teaching related to providing oil communication holes deployed at a nonzero angle that corresponds with an angle at which the motive unit is positioned during filling. In fact, the Shaw et al. reference again appears to disclose just the opposite by

illustrating flow passages at a variety of different angles. These and other examples in the Office Action demonstrate that the Shaw et al. reference is improperly relied on as an anticipatory reference and, in fact, fails to disclose numerous elements of the rejected claims.

By way of specific examples, the Shaw et al. reference fails to disclose or suggest "delivering the motive unit to an oil production well as a single unit" or "providing the motive unit with a plurality of oil communication holes deployed at a nonzero angle with respect to the longitudinal axis such that the nonzero angle of the plurality of oil communication holes corresponds with an angle at which the motive unit is positioned relative to vertical during filling of the motive unit with oil" as recited in independent claim 26. Accordingly, the Shaw et al. reference fails to disclose each and every element of the subject claims, and the rejection under 35 USC 102(b) must be withdrawn.

Claims 27-28 and 30-32 ultimately depend from independent claim 26 discussed above, and each claim recites additional elements. Accordingly, the rejection of these dependent claims under 35 USC 102(b) also must be withdrawn.

b.) Rejection of claims claims 39 and 40 as unpatentable under 35 U.S.C. § 102(b) for being anticipated by the Shilman reference, RU 2162272 C1.

- Claims 39 and 40

Independent claim 39 was improperly rejected under 35 USC 102(b) because the cited reference fails to disclose each and every element of the subject claim. Accordingly, the rejection under 35 USC 102(b) should be withdrawn.

The Shilman reference describes a combined electric motor 1 having a head 2 with a cable entry. The cable entry has a plug 5 whose body 6 is fastened to the head 2 at a plug receptacle 8. Within receptacle 8, a relief valve is constructed via a separate spring-loaded stem 16 or via a plug 17 placed in an opening 18. (See description and Figures 2, 3).

However, neither of these arrangements discloses or suggests the unique approach of using the "terminal block" as a movable member between "a sealed position and an open position" to enable fluid communication, as recited in independent claim 39. The movable terminal block is a new approach unrelated to the teachings of the cited document, because it greatly simplifies construction of the cable connection as opposed to using separate check valves and corresponding flow channels as described in the Shilman reference. The Shilman reference describes a spring biased stem 16 within a receptacle 8, but the reference fails to teach any type of terminal block that is movable between positions.

By way of specific examples, the Shilman reference fails to disclose or suggest an electrical cable connection "having a terminal block movable between a sealed position and an open position" as recited in independent claim 39. The cited reference also fails to disclose the movable terminal block in combination with "a spring" to bias the movable terminal block toward the sealed position, combined with "a dielectric gasket to limit electrical tracking" as further recited in independent claim 39. Because the cited reference fails to disclose or suggest elements of the subject claims, the rejection under 35 USC 102 (b) is unsupported and must be withdrawn.

Claim 40 directly depends from independent claim 39 and recites additional elements. Accordingly, the rejection of claim 40 also should be withdrawn.

c.) **Rejection of claims 47-51 as unpatentable under 35 U.S.C. § 102(e) for being anticipated by the Du et al. reference, US Publication No.: 2005/0087343.**

- Claims 47-51

Independent claim 51 was improperly rejected under 35 USC 102(e) because the cited reference fails to disclose each and every element of the subject claim. Accordingly, the rejection under 35 USC 102(e) should be withdrawn.

The Du et al. reference describes a system and method for reducing wear on a motor protector. In one embodiment, a motor protector 16 comprises a vent passageway 88 for venting air from a head section chamber 66 during oil-filling or other procedures. In a described embodiment, the vent passageway 88 is disposed through a shaft 40 and ultimately to an outlet or valve 94. (See page 3, paragraph 0030). Accordingly, this portion of the Du et. al. reference teaches an approach for venting gas rather than providing a sump for collecting gas.

In the January 16, 2009 Office Action, page 5, a statement is made that the Du et al. reference discloses a protector section comprising "a bubble sump (88)" however this label is provided only in the Office Action. The actual reference does not describe a bubble sump but rather the "vent passageway 88" that can be used to vent air during filling of the motor protector with oil. The disclosure and teaching of such a different structure and approach cannot be considered anticipatory. Because the cited reference fails to disclose each and every element of independent claim 51, e.g. "a bubble sump to maintain any released gases in a dedicated volume", the rejection under 35 USC 102(e) must be withdrawn. It should be noted that because the cited reference fails to disclose elements of the subject claims, it is not necessary to address any ineffectiveness of the reference based on the potential common inventorship or prior invention.

Claims 47-50 directly depend from independent claim 51 and recite additional unique elements. Accordingly, the rejection of dependent claims 47-50 also should be withdrawn.

d.) Rejection of claims 1, 3-5, 7, 8, 15, 23 and 33 as unpatentable under 35 U.S.C. § 103(a) for being obvious over the Shaw et al. reference in view of the Scarsdale reference, US Patent No.: 6,290,430.

- Claims 1, 3-5, 7, 8 and 15

Independent claim 1 was improperly rejected under 35 USC 103(a) because the cited references fail to establish a prima facie case of obviousness. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

As described above, the Shaw et al. reference discloses a sealing apparatus that is used with a submersible motor. The sealing apparatus has a tubular housing assembly 10 attached to the top end of a conventional submersible electric motor housing 1. A motor shaft 1d is provided with splines 1e that engage corresponding splines of a coupling 2, but the connection is not axially affixed. Accordingly, the rejection of claims 1, 3-5, 7, 8 and 15 relies on the same improper interpretation of the Shaw et al. reference as discussed above with respect to the rejection of claims 16-19, 22, 25-28 and 30-32. Accordingly, even if the Scarsdale reference is added, the combination fails to disclose, teach or suggest numerous elements of the subject claims.

For example, the references, taken alone or in combination, fail to disclose, teach or suggest a motive unit in which the motor section "comprises a motor section shaft and the motor protector section comprises a motor protection section shaft, the motor section shaft and the motor protector section shaft being axially affixed to each other with respect to a longitudinal axis of the motive unit" as recited in independent claim 1. (Emphasis added). Therefore, no prima facie case of obviousness can be established, and the rejection under 35 USC 103(a) must be withdrawn.

Claims 3-5, 7, 8 and 15 ultimately depend from independent claim 1 discussed above, and each claim recites additional elements. Accordingly, no prima facie case of obviousness can be established with respect to these dependent claims, and the rejection should be withdrawn.

- Claims 3-5

In the January 16, 2009 Office Action, the rejection of dependent claims 3-5 was supported by taking Official Notice that these claims recite equivalent connections to the

connection disclosed in the Shaw et al. reference. Applicant again seasonably traverses and challenges the Examiner's use of Official Notice. In the January 16, 2009 Office Action, page 8, the Examiner cites the Yorulmazoglu reference (US 6,398,521) which is an unrelated patent that discloses various mechanisms for connecting shaft ends. However, incorporation of the Yorulmazoglu features would defeat the purpose of the Shaw et al. design which relies on the severability of the sealing housing assembly 10 and the submersible motor housing 1 via flanges 10a and 1a. Accordingly, addition of the Yorulmazoglu supports neither the taking of Official Notice nor the rejection of these dependent claims under 35 USC 103.

- Claim 23

Claim 23 depends from independent claim 16 and was improperly rejected under 35 USC 103(a) because the cited references fail to establish a prima facie case of obviousness. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

As discussed above with respect to independent claim 16, the Shaw et al. reference also fails to disclose or suggest forming an axially affixed connection or prefilling a combined motor section and protector section with a lubricating fluid. The Scarsdale reference fails to remove this deficiency. By way of example, the combination of references fails to disclose, teach or suggest connecting a motor section shaft to a protector section shaft "to form an axially affixed connection"; or prefilling the combined motor section and protector section "prior to delivery of the combined motor section and protector section to a wellbore location " as recited in independent claim 16 and therefore in its dependent claim 23. Therefore, no prima facie case of obviousness can be established, and the rejection under 35 USC 103(a) must be withdrawn.

- Claim 33

Claim 33 depends from independent claim 26 and was improperly rejected under 35 USC 103(a) because the cited references fail to establish a prima facie case of obviousness. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

As discussed above with respect to independent claim 26, the Shaw et al. reference also fails to disclose or suggest delivering the motive unit to an oil production well as a single unit or providing the motive unit with a plurality of oil communication holes deployed at a nonzero angle with respect to a longitudinal axis. The Scarsdale reference fails to remove this deficiency. By way of example, the combination of references fails to disclose, teach or suggest "delivering the motive unit to an oil production well as a single unit" or "providing the motive unit with a plurality of oil communication holes deployed at a nonzero angle with respect to the longitudinal axis such that the nonzero angle of the plurality of oil communication holes corresponds with an angle at which the motive unit is positioned relative to vertical during filling of the motive unit with oil" as recited in independent claim 26 and therefore in its dependent claim 33. Therefore, no prima facie case of obviousness can be established, and the rejection under 35 USC 103(a) must be withdrawn.

e.) Rejection of claim 6 as unpatentable under 35 U.S.C. § 103(a) for being obvious over the Shaw et al. reference in view of the Scarsdale reference and further in view of the Shilman reference.

- Claim 6

Dependent claim 6 was improperly rejected under 35 USC 103(a) because the cited references fail to establish a prima facie case of obviousness. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

Claim 6 depends from independent claim 1 and recites additional elements. The Shilman reference provides no additional disclosure that would obviate the deficiencies of disclosure in the Shaw et al. reference and the Scarsdale reference as discussed above with respect to corresponding independent claim 1. Furthermore, the Shilman reference fails to disclose or suggest a terminal block movable between a sealed position and an open position as discussed

above with respect to independent claim 39. Accordingly, no prima facie case of obviousness has been established, and the rejection under 35 USC 103(a) should be withdrawn.

f.) Rejection of claims 9-11 as unpatentable under 35 U.S.C. § 103(a) for being obvious over the Shaw et al. reference in view of the Scarsdale reference and further in view of the Kinsinger reference, US Patent No.: 6,091,175.

- Claims 9-11

Dependent claims 9-11 were improperly rejected under 35 USC 103(a) because the cited references fail to establish a prima facie case of obviousness. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

Claims 9-11 ultimately depend from independent claim 1 and recite additional elements. The Kinsinger reference provides no additional disclosure that would obviate the deficiencies of disclosure in the Shaw et al. reference and the Scarsdale reference as discussed above with respect to corresponding independent claim 1. Furthermore, the rejection of pending claim 11 was supported by the taking of Official Notice that it would have been obvious to use a tolerance ring connection. However, Applicant disagrees with this assertion. Applicant again seasonably traverses and challenges the Examiner's use of Official Notice.

In the January 16, 2009 Office Action, page 10, the Examiner cites the Yamamoto et al. reference (US 6,854,556) and the Kurokawa et al. reference (US 6,394,220) which are unrelated patents, and Appellant objects to the characterization of these references. Regardless, affixing the shaft ends in Shaw et al. would defeat the purpose of the Shaw et al. design which employs a separate sealing housing assembly 10 and submersible motor housing 1 which are selectively joined via flanges 10a and 1a. Accordingly, addition of the Kinsinger reference supports neither the taking of Official Notice nor the rejection of these dependent claims under 35 USC 103. Accordingly, no prima facie case of obviousness has been established, and the rejection under 35 USC 103(a) should be withdrawn.

- g.) Rejection of claim 13 as unpatentable under 35 U.S.C. § 103(a) for being obvious over the Shaw et al. reference in view of the Scarsdale reference and further in view of the Vandevier reference, US Patent No.: 4,521,708.**

- Claim 13

Dependent claim 13 was improperly rejected under 35 USC 103(a) because the cited references fail to establish a prima facie case of obviousness. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

Claim 13 depends from independent claim 1 and recites additional elements. The Vandevier reference provides no additional disclosure that would obviate the deficiencies of disclosure in the Shaw et al. reference and the Scarsdale reference as discussed above with respect to corresponding independent claim 1. The Examiner provided no evidence as to how the Vandevier reference could disclose or suggest the elements missing from the Shaw et al. and Scarsdale references. Accordingly, no prima facie case of obviousness has been established, and the rejection under 35 USC 103(a) should be withdrawn.

- h.) Rejection of claim 14 as unpatentable under 35 U.S.C. § 103(a) for being obvious over the Shaw et al. reference in view of the Scarsdale reference and further in view of the Howell et al. reference, US Patent No.: 6,602,059.**

- Claim 14

Dependent claim 14 was improperly rejected under 35 USC 103(a) because the cited references fail to establish a prima facie case of obviousness. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

Claim 14 depends from independent claim 1 and recites additional elements. The Howell et al. reference provides no additional disclosure that would obviate the deficiencies of disclosure in the Shaw et al. reference and the Scarsdale reference as discussed above with respect to corresponding independent claim 1. The Examiner provided no evidence as to how the Howell et al. reference could disclose or suggest the elements missing from the Shaw et al. and Scarsdale references. Accordingly, no prima facie case of obviousness has been established, and the rejection under 35 USC 103(a) should be withdrawn.

- i.) **Rejection of claim 20 as unpatentable under 35 U.S.C. § 103(a) for being obvious over the Shaw et al. reference in view of the Shilman reference.**

- Claim 20

Dependent claim 20 was improperly rejected under 35 USC 103(a) because the cited references fail to establish a prima facie case of obviousness. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

Claim 20 depends from independent claim 16, and recites additional elements. The Shilman reference provides no additional disclosure that would obviate the deficiencies of disclosure in the Shaw et al. reference as discussed above with respect to corresponding independent claim 16. The Examiner provided no evidence as to how the Shilman reference could disclose or suggest the elements missing from the Shaw et al. reference. Accordingly, no prima facie case of obviousness has been established, and the rejection under 35 USC 103(a) should be withdrawn.

- j.) **Rejection of claim 29 as unpatentable under 35 U.S.C. § 103(a) for being obvious over the Shaw et al. reference.**

- Claim 29

Dependent claim 29 was improperly rejected under 35 USC 103(a) because the cited reference fails to establish a prima facie case of obviousness. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

Claim 29 ultimately depends from independent claim 26 and recites additional elements. As discussed above with respect independent claim 26, the Shaw et al. reference is deficient in disclosing or suggesting elements of this claim, and therefore no prima facie case of obviousness can be established. Furthermore, claim 29 recites non-obvious elements, e.g. "a single, unitary shaft", in addition to those of independent claim 26. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

k.) Rejection of claim 34 as unpatentable under 35 U.S.C. § 103(a) for being obvious over the Shaw et al. reference in view of the Vandevier reference.

- Claim 34

Dependent claim 34 was improperly rejected under 35 USC 103(a) because the cited references fail to establish a prima facie case of obviousness. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

Claim 34 depends from independent claim 26 and recites additional elements. As discussed above with respect independent claim 26, the Shaw et al. reference is deficient in disclosing or suggesting elements of this claim. Furthermore, claim 29 recites elements in addition to those of independent claim 26. Therefore, no prima facie case of obviousness can be established, and the rejection under 35 USC 103(a) should be withdrawn.

l.) Rejection of claims 24 and 35 as unpatentable under 35 U.S.C. § 103(a) for being obvious over the Shaw et al. reference in view of the Howell et al. reference.

- Claims 24 and 35

Dependent claims 24 and 35 were improperly rejected under 35 USC 103(a) because the cited reference fails to establish a prima facie case of obviousness. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

Claim 24 depends from independent claim 16 and recites additional elements. Similarly, claim 35 depends from independent claim 26 and recites additional elements. As discussed above with respect independent claims 16 and 26, the Shaw et al. reference is deficient in disclosing or suggesting elements of these independent claims as well as their dependents. Claims 24 and 35 recite elements in addition to those of independent claims 16 and 26, and no prima facie case of obviousness can be established. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

m.) Rejection of claims 43-45 as unpatentable under 35 U.S.C. § 103(a) for being obvious over the Kinsinger reference in view of the Yamamoto et al. reference, US Patent No.: 6,854,556, and the Kurokawa et al. reference, US Patent No.: 6,394,220.

- Claims 43-45

Claim 43 was improperly rejected under 35 USC 103(a) because the cited references fail to establish a prima facie case of obviousness. Accordingly, the rejection under 35 USC 103(a) should be withdrawn.

The Kinsinger reference describes a submersible pumping system comprising a motor containing self-centering rotor bearing assemblies. Rotor sections 28 are rotatively coupled to a shaft 26, and sleeves 48 also are rotatively coupled to the shaft 26. However, the sleeves 48 are "not axially locked to shaft 26" to thereby provide a certain amount of freedom of movement in an axial direction. The axial movement is used to accommodate, for example, relative thermal expansion and contraction. (See column 4, lines 48-67). Accordingly, even if the Yamamoto et al. and the Kurokawa et al. references could be construed as disclosing sleeves press fit onto a

shaft, the Kingsinger reference explicitly teaches against such an application in a submersible pumping system. Instead, the Kingsinger reference teaches the use of sleeves 48 that have freedom to move in an axial direction. This teaching would lead someone of ordinary skill in the art away from the combination proposed by the Examiner in the January 16, 2009 Office Action. Accordingly, no prima facie case of obviousness can be established, and the rejection of claim 43 must be withdrawn.

Furthermore, the Yamamoto et al. reference, in fact, teaches a power steering device that includes a torque limiter 11' having a torque setting member 51. The torque setting member 51 is fitted between an outer circumference of a third shaft section and an inner circumference of a driven bevel gear such that it is subjected to diametric deformation. (See column 11, lines 50-57). The Kurokawa et al. reference also discloses a power steering device having a metal sleeve 11 formed integrally with a worm wheel 10 and fixed to a third shaft by press-fitting, a key, or the like. (See column 3, lines 42-46). However, neither of these supporting references describes or suggests the journal bearing or the replaceable sleeve of the journal bearing, wherein the replaceable sleeve is press fit onto the drive shaft with a tolerance ring. This lack of disclosure, teaching or suggestion further establishes that no prima facie case of obviousness is supported by the cited references, and the rejection of claim 43 under 35 USC 103(a) must be withdrawn.

Claims 44-45 directly depend from independent claim 43 and recite additional unique elements. Accordingly, no prima facie case of obviousness is established with respect to these dependent claims, and the rejection of dependent claims 44-45 under 35 USC 103(a) also should be withdrawn.

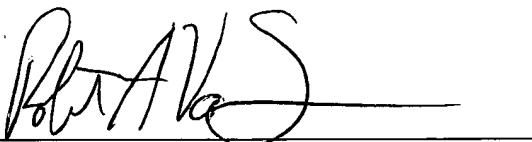
In the January 16, 2009 Office Action, page 16, a statement was made that "Applicant did not rebut any of Examiner's arguments for the July 10 Office Action, other than to characterize them as 'unsupported'." This blanket assertion is incorrect. Throughout the lengthy prosecution of the present patent application, Applicant/Appellant has repeatedly rebutted the Examiner's rejections based on the lack of disclosure and teachings in the references relied on to form the rejections discussed above.

-35 USC 2(b)(2)(C)

As a final thought and as discussed in the March 12, 2009 Reply and October 7, 2008 Reply, 35 USC 2, sets forth the powers and duties of the United States Patent and Trademark Office. Under those specific powers, the Patent Office "shall facilitate and expedite the processing of patent applications" as set forth in 35 USC 2(b)(2)(C). Appellant respectfully and humbly asserts the Patent Office has not acted in a manner that facilitates and expedites the processing of patent applications with respect to the present application. In an early Office Action, claims 1-11, 13-20 and 22-35 were allowed. That allowance was withdrawn in the subsequent Office Action, and claims 47-51 were allowed. The allowance of claims 47-51 was then affirmed in the next Office Action. However, the allowance of claims 47-51 was withdrawn in a subsequent Office Action. Furthermore, the January 16, 2009 Office Action provides 13 different rejections that primarily rely on the same references used in prior Office Actions. Within the 13 different rejections, support for various assertions was provided through Official Notice. Respectfully, the practice of repeatedly allowing claims and withdrawing the allowance via numerous Office Actions without substantial changes in the cited art is not believed in keeping with the mandate of the US Patent and Trademark Office.

In view of the above remarks, Appellant respectfully submits the Examiner has failed to support the rejection of claims 1, 3-11, 13-20, 22-35, 39, 40, 43-45 and 47-51 under either 35 USC 102(b) or (e) or 35 USC 103(a). Therefore, Appellant respectfully requests that the Board find claims 1, 3-11, 13-20, 22-35, 39, 40, 43-45 and 47-51 patentable, withdraw all outstanding rejections, and allow claims 1, 3-11, 13-20, 22-35, 39, 40, 43-45 and 47-51.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert A. Van Someren', is written over a horizontal line.

Date: July 24, 2009

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8. **CLAIMS APPENDIX**

1. A system for producing oil, comprising:

a submersible pump; and

a motive unit to power the submersible pump, the motive unit being a single device with a motor section and motor protector section to seal the motor section from surrounding fluid and to accommodate thermal expansion of an internal lubricating fluid during production of oil, wherein the motive unit comprises a plurality of bearings having self lubricating bushings, wherein the motor section comprises a motor section shaft and the motor protector section comprises a motor protector section shaft, the motor section shaft and the motor protector section shaft being axially affixed to each other with respect to a longitudinal axis of the motive unit.

3. The system as recited in claim 1, wherein the motor section shaft and the motor protector section shaft are affixed to each other by a threaded joint.
4. The system as recited in claim 1, wherein the motor section shaft and the motor protector section shaft are affixed to each other by an interference fit.
5. The system as recited in claim 1, wherein the motor section shaft and the motor protector section shaft are affixed to each other by a cross bolt.
6. The system as recited in claim 1, wherein the motive unit comprises an electrical cable connection having a spring biased terminal block movable between a sealed position and an open position.
7. The system as recited in claim 1, wherein the protector section comprises a protector head having a transverse sand escape hole.

8. The system as recited in claim 7, wherein the protector section further comprises a bearing and a shroud protecting the bearing from sand.
9. The system as recited in claim 1, wherein the motive unit comprises at least one journal bearing having a replaceable wear sleeve.
10. The system as recited in claim 9, wherein the replaceable wear sleeve is coupled to a shaft by a key and a retainer.
11. The system as recited in claim 9, wherein the replaceable wear sleeve is coupled to a shaft by a tolerance ring.
13. The system as recited in claim 1, wherein the motor section comprises a rotor bearing having a spring-loaded key.
14. The system as recited in claim 1, wherein the motor section comprises an integral sensor to sense at least one well related parameter.
15. The system as recited in claim 1, wherein the motive unit has an axis and a plurality of oil communication holes deployed at an angle with respect to the axis.
16. A method of forming a motive unit for a submersible pumping system, comprising:

connecting a motor section shaft to a protector section shaft to form an axially affixed connection;

placing a sealed housing about the axially affixed connection to form a combined motor section and protector section;

prefilling the combined motor section and protector section with a lubricating fluid prior to delivery of the combined motor section and protector section to a wellbore location; and

forming a protector section head with lateral sand escape holes disposed above a protector section bearing.

17. The method as recited in claim 16, further comprising moving the combined motor section and protector section to a desired wellbore location.
18. The method as recited in claim 16, wherein connecting comprises utilizing a threaded coupler.
19. The method as recited in claim 16, wherein placing comprises threadably engaging a motor section housing with a protector section housing.
20. The method as recited in claim 16, further comprising providing the motor section with a terminal block that is spring biased toward a sealed position, the terminal block being movable to an open position upon pluggably receiving a cable connector.
22. The method as recited in claim 16, further comprising providing the combined motor section and protector section with a journal bearing having a replaceable wear sleeve.
23. The method as recited in claim 16, further comprising utilizing a bearing with a self lubricating bushing.
24. The method as recited in claim 16, further comprising incorporating an integral sensor into the motor section.

25. The method as recited in claim 16, further comprising forming oil communication holes at an angle with respect to an axis of the combined motor section and protector section.
26. A method for protecting a submersible motor, comprising:
- constructing a motive unit having a longitudinal axis for a submersible pumping system with a motor section and a protector section combined;
- delivering the motive unit to an oil production well as a single unit; and
- providing the motive unit with a plurality of oil communication holes deployed at a nonzero angle with respect to the longitudinal axis such that the nonzero angle of the plurality of oil communication holes corresponds with an angle at which the motive unit is positioned relative to vertical during filling of the motive unit with oil.
27. The method as recited in claim 26, further comprising prefilling the motive unit with a lubricating oil prior to delivering the motive unit to the production well.
28. The method as recited in claim 26, further comprising axially connecting a motor section shaft with a protector section shaft.
29. The method as recited in claim 28, wherein axially connecting comprises providing a single, unitary shaft.
30. The method as recited in claim 28, wherein axially connecting comprises providing a coupling sleeve to create a permanent joint between the motor section shaft and the protector section shaft.
31. The method as recited in claim 26, further comprising forming a sand escape hole in a head of the protector section.

32. The method as recited in claim 26, further comprising utilizing journal bearings having replaceable wear sleeves in the motive unit.
33. The method as recited in claim 26, further comprising utilizing journal bearings having self lubricating bushings in the motive unit.
34. The method as recited in claim 26, further comprising utilizing rotor bearings having spring loaded keys.
35. The method as recited in claim 26, further comprising placing a sensor within the motor section.
39. A system for producing a fluid, comprising:

a motor section having an electrical cable connection, the electrical cable connection having a terminal block movable between a sealed position and an open position that enables fluid communication between a connection interface and an interior volume of the motor section further comprising a spring to spring bias the terminal block toward the sealed position and a dielectric gasket to limit electrical tracking.

40. The system as recited in claim 39, further comprising a protector section permanently coupled to the motor section.

43. A system for producing a fluid, comprising:

a motive unit for driving a submersible pump, the motive unit having a journal bearing disposed about a drive shaft, wherein the journal bearing has a replaceable sleeve, wherein the replaceable sleeve is press fit onto the drive shaft with a tolerance ring.

44. The system as recited in claim 43, wherein the journal bearing comprises a plurality of journal bearings, each journal bearing having a replaceable wear sleeve.
45. The system as recited in claim 43, wherein the motive unit comprises a motor section and a protector section assembled as a single unit.
47. The system as recited in claim 51, wherein the motor section and the protector section are manufactured as a single unit.
48. The system as recited in claim 51, wherein the bubble sump is disposed in the protector section.
49. The system as recited in claim 51, wherein the bubble sump comprises a framework having the dedicated volume for collecting the released gases.
50. The system as recited in claim 51, wherein the framework is disposed above a protector bag.
51. A system for use in pumping a fluid from well, comprising:

an electric submersible pumping system having a motor section and a protector section, wherein at least one of the motor section and the protector section comprises a bubble sump to maintain any released gases in a dedicated volume, further comprising a relief valve system in communication with the dedicated volume to vent gas from the bubble sump.

9. **EVIDENCE APPENDIX**

Not Applicable

10. **RELATED PROCEEDINGS APPENDIX**

Not Applicable